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VZ JOURNAL

HV VZ USERS GROUP
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FRONT COVER

IT SAYS IT ALL. I HAVE MOVED AGAIN, BUT NOT VERY FAR AND HAVE NO PLANS MOVING AGAIN UNLESS I WIN LOTTO OR SOMETHING SIMILIAR. IT IS VERY NICE HAVING A PLACE OF MY OWN AGAIN AFTER BOARDING FOR A COUPLE YEARS WITH MY BROTHER.

HELP - SELL & .ELL

PAGE 3

APOLOGIES, NEXT/FUTURE ISSUES, FOR SALE, PUBLIC DOMAIN SOFTWARE AND BACK ISSUES.

LIST UTILITY BY L MILBURN

PAGES 4-6

LIST IS A SMALL ROUTINE WHICH CAN BE CALLED FROM A BASIC PROGRAM AND LISTS A BASIC PROGRAM STORED ON DISK TO THE PRINTER (OR SCREEN AFTER A SMALL MOD) AND THE BASIC PROGRAM WILL KEEP RUNNING AFTER THE CALL.

DOS BUGS 2 BY L MILBURN

PAGE 6

THIS TIME LES HAS FOUND A BUG WITH THE DCOPY COMMAND AND SHARES HIS DISCOVERY WITH OTHER VZ USERS.

BASIC COMMAND ABBREVIATIONS

PAGE 8

BY BOB KITCH

THERE ARE A NUMBER OF UNDOCUMENTED COMMAND ABBREVIATIONS WHICH BOB BRINGS TO OUR ATTENTION AND CAN BE USED BY PROGRAMERS.

INVERSE CHARACTER SET

PAGES 7-10

BY BOB KITCH

THE SHAPES OF THE VZ INVERSE CHARACTER SET IS HELD IN ROM AND CONTAIN SOME ERRORS. IF YOU STUDY PAGE 10 YOU'LL SEE THEM. THE PROGRAM WILL ALLOW YOU TO A HAVE A LOOK AT YOUROWN ROM AND SEE FOR YOURSELF.

BASIC & SOURCE CODE TO

PAGES 10-14

WP FILE BY D MITCHELL

THIS PROGRAM WAS NORMALLY AVAILABLE WITH DAVE MITCHELL'S E & F DISK WP PATCH3.3. IT CONVERTS BASIC PROGRAMS AND SOURCE CODE FILES TO DISK WP FILES. IT IS VERY FAST AND VERY EASY TO USE AND VERY USEFUL.

VZ NUMBERS FREQUENCY

PAGES 14-18

THIS PROGRAM IS DESIGNED TO KEEP TRACK OF WINNING AND/OR SUPPLEMENTARY NUMBERS IN POOLS AND GO LOTTO. WITH SOME MINOR MODIFICATIONS THIS PROGRAM COULD BE ALTERED TO KEEP TRACK OF OTHER NUMBER FREQUENCIES. OZ LOTTO MODS IN NEXT ISSUE.

VZ-EPSON PRINTER PATCH V1.4

PAGE 19

BY L TAYLOR - PUBLIC TAYLOR

THE INSTRUCTIONS FOR ABOVE ARE REPRODUCED FOR THOSE WHO HAVE PROGRAM BUT NOT THE INSTRUCTIONS.

NEW PUBLIC DOMAIN SOFTWARE

PAGE 20

USER GROUPS

CONTRIBUTIONS

SUBSCRIPTIONS

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• APOLOGIES . . .

MY SINCEREST APOLOGIES TO ALL VZ JOURNAL READERS FOR THE VERY, VERY LATENESS OF THIS ISSUE. AS MENTIONED IN LAST ISSUE I HAVE A MEDICAL PROBLEM WHICH GOT MUCH WORSE NEAR COMPLETION OF MY NEW HOUSE. IT AFFECTED ALL MY JOINTS AND MADE LIFE UNBEARABLE FOR MANY MONTHS.

I HAD TO BE OUT OF MY LAST ADDRESS BY A CERTAIN DATE AND SO I PUSHED MYSELF AND AM STILL PAYING FOR IT NOW. I HAD MANY RELAPSES SINCE THEN BUT THANKFULLY I'M STARTING TO FEEL NEAR NORMAL. THE NEXT ISSUE SHOULD BE ON TIME AS I'VE LEARNED MY LESSON AND AM TAKING THINGS EASY.

NEXT/FUTURE ISSUE/S . . .

FINAL PART OF VZ FREQUENCY.
MULTIPLE USR CALL ROUTINE (USED IN VZ FREQUENCY).
MACHINE CODE DIRECTORY ROUTINE (USED BY VZ FREQUENCY).
MINI AMPLIFIER FOR THE VZ.
MANUAL DATA INPUT FOR VZ LOTTO.
JOURNAL INDEX PART II

FOR SALE - FOR SALE . . .

1 OFF VZ 300
2 OFF DISK DRIVES
1 OFF PRINTER INTERFACE
1 OFF GREEN SCREEN MONITOR
1 OFF LIGHT PEN
1 OFF DR20 TAPE DATA RECORDER
1 OFF 16 MEMORY EXPANSION
1 OFF DISK CONTROLLER
1 OFF JOYSTICK INTERFACE
1 OFF 8 BIT PORT (HV VZ J #30)
1 OFF MODEM AND INTERFACE
ASSORTED GAME CASSETTES
BOX OF ASSORTED DISKS, BOOKS, MAGAZINES AND MANUALS

\$250.00 ONO. WILL SEPERATE BUT WOULD PREFER TO SELL AS ONE LOT.

ALSO FOR SALE SPARE PARTS INCLUDING:

APPROXIMATELY 6 VZ'S, EXPANSION CASES, MODEMS, JOYSTICKS, MEMORY, CPU CHIPS (SOME NEW), MONITORS (GOING).

BEST OFFER FOR ABOVE . . .

BEN HOBSON PO BOX 255 QUIRINDI 2343 (067) 462 076 AFTER 6.30 PM

PUBLIC DOMAIN SOFTWARE

IT HAS BEEN SUGGESTED TO ME THAT I ASSEMBLE A NUMBER OF DISKS CONTAINING PUBLISHED PROGRAMS, PUBLIC DOMAIN SOFTWARE, ETC AND OFFER TO READERS AT MINIMAL COST TO COVER EXPENSES. PLEASE LET ME KNOW YOUR IDEAS ON THIS AND WHAT TYPE OF SOFTWARE YOU WOULD LIKE. ED.

• BACK ISSUES . . .

MOST BACK ISSUES ARE IN STOCK AND AVAILABLE AT FOLLOWING PRICES.

CURRENT ISSUE - \$3.50 EACH - INCLUDES POSTAGE
1 - 5 ISSUES - \$3.00 EACH - INCLUDES POSTAGE
6 OR MORE ISSUES - \$2.75 EACH - INCLUDES POSTAGE
OUT OF STOCK ISSUES - \$3.50 EACH - INCLUDES POSTAGE

LIST UTILITY BY LESLIE MILBURN 44-4

LIST IS A SMALL ROUTINE WHICH LISTS A BASIC PROGRAM STORED ON DISK TO THE PRINTER (OR SCREEN AFTER A SMALL MOD).

SO WHATS NEW? I HEAR YOU ASK.

WELL, THE BEAUTY OF THIS UTILITY IS THAT IT CAN BE CALLED FROM A BASIC PROGRAM AND DOES NOT RE-ENTER IMMEDIATE MODE AFTER LISTING THE PROGRAM, (I.E. THE CALLING BASIC PROGRAM KEEPS RUNNING).

WHAT'S THE USE?

THE MAIN USE OF LIST IS TO PROVIDE AN EASY WAY TO LIST MANY BASIC PROGRAMS IN A "BATCH LIKE" PROCESS WITHOUT REQUIRING INTERVENTION BY THE USER.

HOW TO USE LIST.

- (1) A CONTROLLING BASIC PROGRAM IS REQUIRED. IT MUST LOAD THE ROUTINE, SET UP THE USR ADDRESS AND PROVIDE THE FILENAMES OF THE PROGRAMS TO LIST.
- (2) THE CONTROLLING BASIC PROGRAM MUST BE RELOCATED SUCH THAT ITS START ADDRESS IS ABOVE THE END ADDRESS OF ALL OF THE BASIC PROGRAMS IT IS LISTING.
- (3) X=USR("FILENAME") IS THE SYNTAX REQUIRED TO LIST A FILE. AFTER THE CALL, X INDICATES WHETHER AN ERROR OCCURRED (NON-ZERO = ERROR).

RELOCATING A BASIC PROGRAM

THE EASIEST WAY TO RELOCATE A PROGRAM IS TO USE THE EXT12 UTILITY. AN ALTERNATIVE IS TO MOVE THE START OF BASIC POINTER AS DESCRIBED IN THE TECHNICAL MANUAL.

RUNNING A RELOCATED BASIC PROGRAM

IF YOU TRY TO RUN A RELOCATED BASIC PROGRAM AND YOU GET A SYNTAX ERROR TRY THE FOLLOWING:

```
SOB=(PEEK(30884)+256*PEEK(30885))-1
POKE SOB,0 OR POKE SOB-65536,0 IF SOB > 32767
```

NOW TYPE RUN

HERE IS AN EXAMPLE OF A CONTROLLING BASIC PROGRAM (NOTE THAT LIST.BIN IS LOCATED AT 29184)

```
10 BLOAD"LIST.BIN"
20 POKE30862,0:POKE30863,114
30 POKE29282,0 'FOR SCREEN LIST
40 X=USR("FILE1")
50 X=USR("FILE2")
60 X=USR("FILE3")
70 X=USR("ETC ")
80 X=USR("ETC ")
```

LIST SOURCE CODE ON NEXT 2 PAGES

```

001 ;*****
002 ;* MACHINE CODE ROUTINE *
003 ;* PRINTS A BASIC PROGRAM *
004 ;*****
005 ;
006 ;NOT RELOCATABLE CODE.
007 ;
008 ;*****
009 ;ROM SUBROUTINES.
010 ;
011 PCHR EQU 032AH
012 PINT EQU 0FAFH
013 FLNE EQU 1B2CH
014 PCR EQU 20FEH
015 IMOD EQU 2828H
016 PMSG EQU 2B75H
017 DTOK EQU 2B7EH
018 PWON EQU 4008H
019 PWOFF EQU 400BH
020 LOAD EQU 4041H
021 ;
022 ;*****
023 ;BASIC PROGRAM POINTERS
024 ;
025 DVCE EQU 789CH
026 SBAS EQU 78A4H
027 BPTR EQU 78A7H
028 RTYP EQU 78AFH
029 EBAS EQU 78F9H
030 ARG EQU 7921H
031 ;
032 ;*****
033 ;CONSTANT DEFINITIONS
034 ;
035 VINT EQU 2
036 VSTR EQU 3
037 SDEV EQU 0
038 PDEV EQU 1
039 FTYP EQU "T"
040 STAK EQU 7700H
041 ;
042 ;*****
043 ;
044 ;CHECK ARG IS A STRING
045     CP VSTR
046     JP NZ,ERR
047 ;CHECK IF IMMEDIATE MODE
048     CALL IMOD
049 ;SAVE DOS VECTOR
050     LD (DOS),IY
051 ;CLEAR FILENAME BUFFER
052     LD DE,(DOS)
053     LD HL,(DOS)
054     INC HL
055     INC DE
056     INC DE
057     LD (HL),32
058     LD BC,7
059     LDIR
060 ;GET STRING ARG (FILENAME)
061     LD HL,(ARG)
062 ;A=STRING LENGTH
063     LD A,(HL)
064     INC HL
065 ;IF STRING LEN=0, RETURN
066     CP 0
067     JR Z,ERR
068 ;ENSURE STRING LEN <= 8
069     CP 9
070     JP M,LP1
071     LD A,8
072 LP1 LD E,(HL)
073     INC HL
074     LD D,(HL)
075     EX DE,HL
076 ;COPY FILENAME TO BUFFER
077     LD DE,(DOS)
078     INC DE
079     LD C,A
080     LD B,0
081     LDIR
082 ;SAVE STACK POINTER
083     LD (STCK),SP
084 ;SET STACK PTR TO FREE MEM
085     LD SP,STAK
086 ;SAVE IMPORTANT BASIC PTRS
087     LD HL,(SBAS)
088     PUSH HL
089     LD HL,(EBAS)
090     PUSH HL
091     LD HL,(BPTR)
092     PUSH HL
093 ;SET FILETYPE TO BASIC TYPE
094     LD (IY+9),FTYP
095 ;LOAD FILE SPECIFIED FROM
096 ;DISK IN CURRENT DRIVE
097     CALL PWON
098     CALL LOAD
099 ;SAVE ERROR CODE.
100     PUSH AF
101     CALL PWOFF
102 ;RESTORE THE ERROR CODE
103     POP AF
104 ;WAS THERE A DISK ERROR?
105     CP 0
106     JR NZ,ERR2
107 ;SET THE OUTPUT DEVICE TO
108 ;THE PRINTER
109     LD A,PDEV
110     LD (DVCE),A
111 ;SET THE BASIC INPUT BUFFER
112 ;TO OUR OWN BUFFER
113     LD HL,IBUF
114     LD (BPTR),HL
115 ;SEARCH FOR THE FIRST BASIC
116 ;PROGRAM LINE
117     LD DE,0
118     CALL FLNE
119 ;SAVE FOUND LINE PTR
120     PUSH BC
121 LOOP POP HL
122 ;BC = PTR TO NEXT LINE
123     LD C,(HL)
124     INC HL

```

```

125     LD   B,(HL)
126     INC  HL
127 ;CHECK IF END OF PROGRAM
128     LD   A,B
129     OR   C
130     JR   Z,LEXX
131 ;SAVE PTR TO NEXT LINE
132     PUSH BC
133 ;BC = LINE NUMBER
134     LD   C,(HL)
135     INC  HL
136     LD   B,(HL)
137 ;SAVE LINE NUMBER
138     PUSH BC
139 ;HL = TOKENISED LINE PTR
140     INC  HL
141 ;SAVE LINE PTR. HL=LINE NO
142     EX   (SP),HL
143 ;PRINT THE LINE NUMBER
144     CALL PINT
145 ;OUTPUT A SPACE
146     LD   A,32
147     CALL PCHR
148     POP  HL
149 ;DETOKENISE STRING POINTED
150 ;TO BY HL
151     CALL DTOK
152 ;LIST LINE ON OUTPUT DEVICE
153     LD   HL,IBUF
154     CALL PMSG
155 ;OUTPUT A CR
156     CALL PCR
157     JR   LOOP
158 ;
159 ;EXIT FROM ROUTINE ON ERROR
160 ERR  LD   HL,1
161     JR   LEX1
162 ERR2 EQU $
163 ;
164 ;RESTORE IMPORTANT BASIC
165 ;PROGRAM POINTERS
166     POP  HL
167     LD   (BPTR),HL
168     POP  HL
169     LD   (EBAS),HL
170     POP  HL
171     LD   (SBAS),HL
172     LD   HL,1
173     JR   LEX1
174 ;
175 ;EXIT FROM ROUTINE NO ERROR
176 LEXX EQU $
177 ;
178 ;OUTPUT TWO CR'S
179     CALL PCR
180     CALL PCR
181 ;RESTORE IMPORTANT BASIC
182 ;PROGRAM POINTERS
183     POP  HL
184     LD   (BPTR),HL
185     POP  HL
186     LD   (EBAS),HL
187     POP  HL
188     LD   (SBAS),HL
189 ;RESET OUTPUT DEVICE TO
190 ;THE SCREEN
191     LD   A,SDEV
192     LD   (DVCE),A
193 ;HL=RET VALUE. ZERO=SUCCESS
194     LD   HL,0
195 LEX1 LD   (ARG),HL
196 ;SET RETURN ARG TYPE TO INT
197     LD   A,VINT
198     LD   (RTYP),A
199 ;RESTORE STACK POINTER
200     LD   SP,(STCK)
201     RET
202 ;
203 ;*****
204 ;DATA STORAGE AREA
205 ;
206 IBUF DEFS 100
207 STCK DEFW 0
208 DOS  DEFW 0

```

DOS BUGS REPORT 2 IN (DSE) DOS V1.2 BY LESLIE MILBURN

I HAVE FOUND YET ANOTHER BUG IN Dos V1.2. THIS TIME IT IS TO DO WITH THE DCOPY COMMAND. IF DCOPYING A SINGLE FILE USING TWO DRIVES AND THE DESTINATION DISK IS WRITE PROTECTED, THE DESTINATION DRIVE IS LEFT SPINNING AND NO ERROR MESSAGE IS DISPLAYED.

IF ANYBODY HAS FOUND ANY OTHER BUGS IN ANY DOS SYSTEM, PLEASE INFORM THE EDITOR WHO CAN PASS THE INFORMATION ON TO OTHER USERS.

NOTE: IF WRITING TO EDITOR PLEASE NOTE NEW ADDRESS AND PHONE NUMBER WHICH IS SHOWN ON FRONT COVER.

44-7 BASIC COMMAND ABBREVIATIONS BY BOB KITCH

A NUMBER OF ABBREVIATED FORMS OF BASIC COMMANDS WILL RUN ON THE VZ. THESE SHORTENED FORMS ARE NOT FULLY DOCUMENTED IN THE MANUALS ACCOMPANYING THE MACHINES; SO I HAVE SET THEM OUT BELOW. TRY THEM, AS THEY SAVE A LITTLE SPACE ON THE 32 CHARACTER LONG LINE. THEY SHOULD BE USED WITH CAUTION AS THEY CONTRIBUTE LITTLE TO PROGRAM READABILITY.

FULL COMMAND	ABBREVIATED COMMAND
10 REM A NON-EXECUTABLE LINE	10 ' A NON-EXEC....
20 PRINT"SEE THIS"	20 ?"SEE THIS"
30 SOUND 1,3:SOUND 2,5	30 SOUND 1,3;2,5
40 LET A=23	40 A=23
50 IF A=1 THEN GOTO 999	50 IF A=1,GOTO 999
	...OR...
	50 IF A=1,999
60 PRINT"ENTER VALUE":INPUT A	60 INPUT"ENTER VALUE";A

TO PUT THE INPUT "?" ANY WHERE ON THE SCREEN USE:

```
70 PRINT@488;:INPUT A
```

MULTIPLE NEXT STATEMENTS ARE NOT REQUIRED IF THEY FOLLOW EACH OTHER IN THE PROGRAM.

EDITOR'S NOTE:

THE USE OF (') INSTEAD OF REM SAVES TWO CHARACTER SPACES ON THE PROGRAM LINE BUT USES 3 BYTES OF MEMORY INSTEAD OF 1 BYTE.

THE USE OF (?) INSTEAD OF PRINT SAVES CHARACTER SPACES ON THE PROGRAM LINE, BUT ONCE ENTERED THE VZ CONVERTS IT TO THE PRINT STATEMENT. EACH NUMBERED LINE ON THE VZ CONSISTS OF 64 CHARACTER SPACES INCLUDING THE LINE NUMBER.

IT IS POSSIBLE BY USING (?) MANY TIMES ON A LINE TO FORCE THE VZ TO EXCEED THE 64 CHARACTER LIMIT. THE VZ WILL DISPLAY IT, BUT WILL NOT ALLOW EDITING OF THE EXTRA CHARACTERS/LINES AND IF YOU PRESS RETURN ON THE LINE THE EXTRA CHARACTERS/LINES WILL DISAPPEAR.

WHEN RENUMBERING YOUR PROGRAM THE USE OF (') INSTEAD OF REM CAN CORRUPT YOUR PROGRAM AND BRING ON STRANGE RESULTS WHICH COULD BE DIFFICULT TO CORRECT FOR THE NOVICE PROGRAMMER. AS BOB MENTIONED USE THE ABBREVIATED COMMANDS WITH CAUTION.

DISPLAY INVERSE CHARACTER SET BY BOB KITCH

WHEN INVERSE CHARACTERS ARE SENT TO A DOT MATRIX PRINTER THE PRINTER SHIFTS TO GRAPHICS MODE AND REQUIRES A ROUTINE TO SUPPLY THE APPROPRIATE SHAPES TO THE HEAD. (NORMAL CHARACTERS ARE HELD IN THE PRINTERS ROM). IN THE VZ COMPUTER A TABLE OF SHAPES IS LOCATED AT 3B94H TO 3CD3H (15252 TO 15571 IN ROM).

THERE ARE 64 CHARACTERS, EACH USING 5 BYTES TO DEFINE THEIR GRAPHIC SHAPE. THE SHAPES MAY BE DECODED AND OUTPUT TO THE SCREEN AS IS DONE IN THIS PROGRAM. NOTE THERE ARE ERRORS IN THE ROM. THE 5 BYTES DEFINE A 5 BY 8 DOT MATRIX WHICH IS THE SHAPE OF THE CHARACTER, WHICH INCIDENTLY ARE NOT ORDERED ACCORDING TO THE ASCII CODE.

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THERE ARE 64 CHARACTERS, EACH USING 5 BYTES TO DEFINE THEIR GRAPHIC SHAPE. THE SHAPES MAY BE DECODED AND OUTPUT TO THE SCREEN AS IS DONE IN THIS PROGRAM. NOTE THERE ARE ERRORS IN THE ROM. THE 5 BYTES DEFINE A 5 BY 8 DOT MATRIX WHICH IS THE SHAPE OF THE CHARACTER, WHICH INCIDENTLY ARE NOT ORDERED ACCORDING TO THE ASCII CODE.

THE FIRST BYTE DEFINES THE LEFT HAND EDGE OF THE CHARACTER WHICH IS THE FIRST PRINTED DURING A PASS OF THE PRINTER HEAD. IN TANDY PRINTERS THE MSB IS THE LOWERMOST PIN OF THE HEAD AND LSB IS THE UPPERMOST PIN. THE PINS ON EPSON PRINTER HEADS ARE ARRANGED IN THE OPPOSITE SENSE. THIS REQUIRES THAT THE BITS IN EACH BYTE BE REVERSED.

```

010 '*****
020 '***          DISPLAY INVERSE CHARACTER SET IN ROM          ***
030 '***          AS USED BY DOT MATRIX PRINTER                ***
040 '***          BY R. B. KITCH  27/9/86                      ***
050 '*****
090 :
100 DIM MK%(7) : '***VECTOR OF BIT MASK VALUES - POWERS OF 2
110 DIM BT%(7) : '***VECTOR OF DECODED BITS FROM ROM VALUE.
120 :
130 '***FILL MASK VECTOR WITH POWERS OF 2 FOR DECODING.
140 FOR I%=0 TO 7 :MK%(I%)=2^I% :NEXT I%
150 :
160 '***INITIALIZE PARAMETERS - MAY BE CHANGED TO VARY SCREEN.
170 CC%=4      : '***CHARACTER COLOUR. (1-4)
180 BC%=2      : '***BACKGROUND COLOUR. (1-4)
190 CS%=0      : '***COLOUR SET. (0-1)
200 CW%=3      : '***COLUMN WIDTH BETWEEN CHARACTERS.
210 SP%=16     : '***ROW SPACING FOR CHARACTERS.
220 HS%=0      : '***STARTING HORIZONTAL POSITION ON HI-RES SCREEN.
230 VP%=3      : '***STARTING VERTICAL POSITION ON HI-RES SCREEN.
240 HM%=127    : '***MAXIMUM HORIZONTAL POSITION. (0-127)
250 :
260 '***SET UP MAIN LOOP TO STEP THROUGH ROM FROM 3B94H-3CD3.
270 BK%=0      : '***BYTE COUNTER FOR EACH CHARACTER.
280 HP%=HS%    : '***SET HORIZONTAL POSITION TO START
290 MODE(1) :COLOR,CS% : '***SET HI-RES SCREEN AND COLOR SET.
300 FOR AD%=15252 TO 15571 : '***ROM ADDRESSES FOR SHAPE TABLE.
310   DV%=PEEK(AD%) : '***DECIMAL VALUE IN ROM.
320 :
330 '***DECODE THE INDIVIDUAL BITS OF DV% AND STORE IN BT%().
340 '***THE MASK VALUES IN MK%() ARE "ANDED" WITH THE VALUE.
350 '***THE RESULT STORED IN BT%() IS THE "COLOUR" OF THE BIT.
360   FOR I%= 0 TO 7 : '***PROCEED FROM LSB TO MSB.
370     IF DV% AND MK%(I%) THEN BT%(I%)=BC% ELSE BT%(I%)=CC%
380   NEXT I%
390 :
400 '***CHECK THAT THERE IS ENOUGH ROOM TO PLOT CHARACTER.
410   IF BK%=0 AND HM%-HP%<4 THEN HP%=HS% :VP%=VP%+SP% : '***NEW ROW
420   BK%=BK%+1 : '***INCREMENT BYTE COUNTER.
430 :
440 '***OUTPUT BYTE TO SCREEN.
450   FOR I%=0 TO 7

```


44-9 INVERSE CHARACTER SET CONT.

```
460 COLOR BT%(I%) : '***SET COLOUR OF BIT.
470 SET (HP%,VP%+I%) : '***PLOT BIT.
480 NEXT I%
490 :
500 '***PREPARE FOR NEXT BYTE.
510 HP%=HP%+1 : '***INCREMENT HORIZONTAL POSITION.
520 IF BK%=5 THEN BK%=0 :HP%=HP%+CW% : '***NEW CHARACTER.
530 NEXT AD%
590 GOTO 590
```

EDITOR'S COMMENTS:

THE VZ AS SOLD HAS A TANDY PRINTER COMPATIBLE BASIC ROM. FOR THOSE PERSONS WHO HAVE AN EPSON PRINTER COMPATIBLE EPROM THE ABOVE PROGRAM WILL PRINT THE INVERSE CHARACTERS UPSIDE DOWN. TWO MINOR CHANGES ARE REQUIRED TO FIX THE PROBLEM:

```
OLD LINE: 230 VP%=3          OLD LINE: 470 SET(HP%,VP%+I%)
NEW LINE: 230 VP%=11        NEW LINE: 470 SET(HP%,VP%-I%)
```

DISK USERS: ENTER THE FOLLOWING LINES FOR EXTRA FUNCTIONS.

```
590 GOTO 820
600 A$=INKEY$:A$=INKEY$:IF A$=""THEN 600
610 :
620 IF A$="U"THEN 700:'          ;GOES TO HI-RES SCREEN UPDATE
630 IF A$="S"THEN 710:'          ;GOES TO HI-RES SCREEN SAVE
640 IF A$="Q"THEN CLS:END:'      ;ENDS THIS PROGRAM
650 IF A$="^"THEN 800:'          ;GOES TO PROGRAM UPDATE ROUTINE
660 IF A$="&"THEN 810:'          ;GOES TO PROGRAM SAVE ROUTINE
670 GOTO 600
690 :
700 ERA"INV-ROM":'              ;ERASES HI-RES SCREEN FROM DISK
710 BSAVE"INV-ROM",7000,77FF:'  ;SAVES HI-RES SCREEN TO DISK
720 GOTO 820
790 :
800 :ERA"INV.ROM":'             ;ERASES THIS PROGRAM FROM DISK
810 SAVE"INV.ROM":'             ;SAVES THIS PROGRAM TO DISK
820 SOUND 25,1:GOTO 600
```

TAPE USERS: ENTER ONLY THE FOLLOWING LINES AFTER LINE 610.

```
620 IF A$="S"THEN 800:'          ;GOES TO PROGRAM SAVE ROUTINE
630 IF A$="Q"THEN CLS:END:'      ;ENDS THIS PROGRAM
640 GOTO 600
690 :
800 CSAVE"INVERSE ROM":'        ;SAVES THIS PROGRAM TO TAPE
820 SOUND 25,1:GOTO 600
```

ON THE NEXT PAGE YOU'LL SEE TWO HI-RES SCREEN PRINTOUTS PRODUCED BY THIS PROGRAM. THE LEFT ONE IS OF A STANDARD VZ ROM WHILE THE RIGHT ONE IS OF A MODIFIED VZ ROM (EPROM). IF YOU STUDY THEM CAREFULLY YOU'LL NOTE THE ERRORS IN THE LEFT ONE THAT BOB MENTIONED. ANOTHER ADVANTAGE OF THE MODIFIED EPROM IS THAT IT WILL PRINTOUT TO AN EPSON COMPATIBLE PRINTER ALL THE VZ'S INVERSE AND GRAPHIC CHARACTERS.

MODIFIED VZ ROM (EPROM):

BESIDES ALLOWING LLISTING AND LPRINTING OF ALL INVERSE AND GRAPHIC CHARACTERS THE EPROM ALSO PROVIDES ALL THE EXTENDED BASIC FUNCTIONS HOBBLLED IN THE ORIGINAL VZ ROM WHICH MEANS IT IS NO LONGER REQUIRED TO LOAD ANY EXTENDED BASICS.

Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Q	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	R	S	T	U	V	W	X	Y	Z	[	\	\]	^	_	+	P	R	S	T	U	V	W	X	Y	Z	[\]	^	_	+
!	"	#	\$	%	&	'	()	*	+	,	-	.	/		!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?

BASIC & SOURCE CODE TO WP FILE CONVERTER BY DAVE MITCHELL

THIS UTILITY WHICH SOME OF YOU MAY KNOW AS BSTWP.F (BASIC AND SOURCE CODE TO WORD PROCESSOR FILE CONVERTER) IS USED IN CONJUNCTION WITH DAVE MITCHELL'S PATCH3.3 (DISK VERSION OF E & F WORD PROCESSOR). IT CAN ALSO BE USED WITH RUSSELL HARRISON'S VERSION OF DISK WORD PROCESSOR (WORDPRO).

AS THE NAME SUGGESTS THIS UTILITY CONVERTS BASIC PROGRAMS AND EDITOR ASSEMBLER ('S' FILE TYPE ONLY) SOURCE CODE FILES INTO WORD PROCESSOR FILES WHICH CAN BE LOADED INTO EITHER DISK WORD PROCESSOR. CONVERTING COULDN'T BE SIMPLER, IT'S JUST A MATTER OF ENTERING THE BASIC OR SOURCE CODE FILENAME AND ONCE LOADED ENTERING THE WP FILENAME. PRESSING RETURN WITHOUT FILENAME WILL PRESENT USER WITH DISK DIRECTORY IN 3 COLUMNS.

CONVERTING IS VERY FAST, DON'T BLINK OR YOU MAY MISS IT. THE WP FILES ARE SAVED TO DISK WITH A 'W' FILETYPE WITH AN END ADDRESS OF D000H. BOTH BASIC AND SOURCE CODE FILES ARE PADDED OUT TO 5 DIGITS WITH LEADING ZEROES WHICH YOU MAY HAVE COME ACROSS IN THE JOURNAL ON NUMEROUS OCCASIONS.

AS YOU ENTER THE SOURCE CODE SAVE IT EVERY SO OFTEN SO YOU WON'T LOSE ALL YOUR TYPING. SAVE THE SOURCE CODE AS CONV.SRC AND THE OBJECT CODE AS CONVERT.

WARNING: YOU SHOULD BE AWARE THAT ANY GRAPHIC CHARACTERS IN YOUR CONVERTED BASIC PROGRAM WILL PRINT OUT AS GARBAGE AND IS A LIMITATION OF THE WORD PROCESSOR.

ANYONE WHO HAS TRIED THE PRINTER FUNCTION OF THEIR EDITOR ASSEMBLER WILL FIND THIS UTILITY VERY HANDY FOR PRINTING OUT SOURCE CODE FILES AS IT CAN TAKE ADVANTAGE OF ALL THE PRINTER FUNCTIONS OF PATCH3.3 OR WORDPRO HAS TO OFFER.

CONVERT VERSION 3.1A:

BRIAN GREEVE OF WA HAS MODIFIED CONVERT BY ADDING EXTRA FUNCTIONS MAKING IT VERY VERSATILE INDEED. THANKS BRIAN. CONV3.1A WILL CONVERT ALL SOURCE CODE FILETYPES, EG: S, A & W AS WELL AS QUICK WRITE 'F' WORD PROCESSOR FILES. OTHER OPTIONS ARE NUMBER OF DIGITS SELECT, 1-5 AND D000 OR FE00 WP FILE END ADDRESS FOR PATCH3.3 OR WORDPRO.

44-11 BASIC & SOURCE CONV. CONT.

001	;BASIC AND SOURCE CODE	063	DEFW HO+1
002	;TO WORD PROCESSOR FILE.	064	DEFW E1+1
003	;BY D.MITCHELL - 07B00H	065	DEFW L2+1
004	LD SP,7AFFH	066	DEFW L3+1
005	PUSH IY	067	DEFW L4+1
006	LD HL,(78B1H)	068	DEFW L5+1
007	LD BC,END-HO	069	DEFW L6+1
008	PUSH BC	070	DEFW A0+1
009	XOR A	071	DEFW L7+1
010	SBC HL,BC	072	DEFW L8+1
011	LD (78B1H),HL	073	DEFW L9+1
012	INC HL	074	DEFW L10+1
013	PUSH HL	075	DEFW L11+1
014	XOR A	076	DEFW B0+1
015	LD BC,33H	077	DEFW L12+1
016	SBC HL,BC	078	DEFW L13+1
017	LD (78A0H),HL	079	DEFW L14+1
018	DEC HL	080	DEFW L15+1
019	LD (78E8H),HL	081	DEFW L16+2
020	LD DE,HO	082	DEFW L17+2
021	POP HL	083	DEFW L18+1
022	PUSH HL	084	DEFW L18A+1
023	XOR A	085	DEFW L19+1
024	SBC HL,DE	086	DEFW E2+1
025	EX DE,HL	087	DEFW L20+1
026	LD B,33	088	DEFW L21+1
027	LD IX,LT	089	DEFW L22+1
028	RC LD L,(IX+00)	090	DEFW IPUT+1
029	LD H,(IX+01)	091	DEFW L23+1
030	PUSH BC	092	DEFW ERR+2
031	PUSH HL	093	DEFW M1+1
032	PUSH HL	094	DEFW M2+1
033	POP BC	095	HO LD HL,MES0
034	POP IY	096	CALL 2B75H
035	LD L,(IY+00)	097	L2 LD HL,M1
036	LD H,(IY+01)	098	L3 LD (ADD),HL
037	ADD HL,DE	099	M1 LD HL,MES1
038	LD A,L	100	CALL 2B75H
039	LD (BC),A	101	E1 CALL IPUT
040	INC BC	102	L4 CALL DLY
041	LD A,H	103	CALL 402CH
042	LD (BC),A	104	CP 2
043	INC IX	105	JR Z,S2
044	INC IX	106	S1 OR A
045	POP BC	107	JP NZ,400EH
046	DJNZ RC	108	LD A,0DH
047	POP DE	109	JR S1
048	LD (7200H),DE	110	S2 LD A,(IY+10)
049	LD HL,HO	111	CP "T"
050	POP BC	112	JR Z,S3
051	LDIR	113	CP "S"
052	POP IY	114	JR Z,S3
053	L1 LD HL,ERR	115	LD A,0CH
054	LD (79ADH),HL	116	JR S1
055	LD A,0C3H	117	S3 LD (IY+9),A
056	LD (79ACH),A	118	CALL 4041H
057	LD HL,7AE9H	119	OR A
058	LD (78A4H),HL	120	JP NZ,400EH
059	CALL 1B4DH	121	CALL 400BH
060	LD HL,(7200H)	122	LD A,(IY+9)
061	JP (HL)	123	CP "T"
062	LT DEFW L1+1	124	JR NZ,B0A

125		LD	DE,4	187		JR	Z,B1
126		LD	HL,(78F9H)	188		LD	B,5
127		ADD	HL,DE	189	L13	CALL	C0
128	L5	LD	(BUF1),HL	190		LD	B,5
129	L6	LD	(BUF2),HL	191	L14	CALL	C0
130		LD	HL,(78A4H)	192		LD	B,12H
131	A0	CALL	EXIT	193	L15	CALL	C0
132		LD	A,(HL)	194		JR	B4
133		INC	HL	195	B1	LD	A,(HL)
134		LD	(7921H),A	196		CP	0FFH
135		LD	A,(HL)	197		JR	Z,B4
136		INC	HL	198		CP	5BH
137		LD	(7922H),A	199		JR	NC,B3
138		PUSH	BC	200		ADD	A,20H
139		PUSH	HL	201	B2	LD	(DE),A
140	L7	CALL	BTA	202		INC	DE
141	L8	LD	(BUF1),HL	203		INC	HL
142		LD	(78A7H),HL	204		JR	B1
143		POP	HL	205	B3	RES	6,A
144		CALL	2B7EH	206		JR	B2
145		LD	HL,(78A7H)	207	B4	LD	A,0DH
146	A1	LD	A,(HL)	208		LD	(DE),A
147		OR	A	209		INC	DE
148		JR	Z,A3	210		LD	(DE),A
149		CP	40H	211		INC	DE
150		JR	C,A2	212	L16	LD	(BUF1),DE
151		CP	5BH	213		INC	HL
152		JR	NC,A2	214		JR	B0
153		ADD	A,20H	215	C0	LD	A,(HL)
154		LD	(HL),A	216		CP	60H
155	A2	INC	HL	217		JR	Z,C2
156		JR	A1	218		CP	0FFH
157	A3	LD	(HL),0DH	219		RET	Z
158		INC	HL	220		CP	5BH
159		LD	(HL),0DH	221		JR	NC,C1
160		INC	HL	222		ADD	A,20H
161	L9	LD	(BUF1),HL	223		JR	C3
162		LD	HL,79E8H	224	C1	RES	6,A
163		LD	(78A7H),HL	225		JR	C3
164		POP	HL	226	C2	LD	A,20H
165		JR	A0	227		DEC	HL
166	B0A	LD	HL,(78F9H)	228	C3	LD	(DE),A
167		LD	(HL),0	229		INC	DE
168		INC	HL	230		INC	HL
169		LD	(HL),0	231		DEC	B
170		LD	HL,8000H	232		JR	NZ,C0
171	L10	LD	(BUF1),HL	233		INC	HL
172	L11	LD	(BUF2),HL	234		RET	
173		LD	HL,0A280H	235	EXIT	LD	C,(HL)
174	B0	CALL	EXIT	236		INC	HL
175		INC	HL	237		LD	B,(HL)
176		LD	(7921H),BC	238		INC	HL
177		PUSH	HL	239		LD	A,B
178	L12	CALL	BTA	240		OR	C
179		EX	DE,HL	241		RET	NZ
180		POP	HL	242	L17	LD	DE,(BUF2)
181		LD	A,(HL)	243	L18	LD	HL,(BUF1)
182		CP	7BH	244		LD	(HL),0DH
183		JR	Z,B1	245		PUSH	HL
184		CP	7AH	246		OR	A
185		JR	Z,B1	247		SBC	HL,DE
186		CP	6AH	248		JR	Z,EI

44-13 BASIC & SOURCE CONV. CONT.

249	PUSH HL	311	LD A,20H
250	POP BC	312	LD (DE),A
251	INC BC	313	INC HL
252	LD HL,0CFFFH	314	PUSH IY
253	EX DE,HL	315	POP DE
254	POP HL	316	INC DE
255	LDDR	317	LD BC,8
256	INC DE	318	LDIR
257	LD (78A4H),DE	319	RET
258	LD HL,0D000H	320	DIR CALL 01C9H
259	LD (HL),0	321	XOR A
260	LD (78F9H),HL	322	LD (IY+11H),A
261	L18A LD HL,M2	323	LD (IY+12H),A
262	L19 LD (ADD),HL	324	LD (7AAEH),A
263	M2 LD HL,MES2	325	L23 CALL DLY
264	CALL 2B75H	326	D1 DI
265	E2 CALL IPUT	327	CALL 4035H
266	LD (IY+9),"W"	328	CP 11H
267	L20 CALL DLY	329	JR Z,D7
268	IN A,(13H)	330	OR A
269	BIT 7,A	331	JP NZ,400EH
270	JR Z,S4	332	LD L,(IY+31H)
271	LD A,4	333	LD H,(IY+32H)
272	JP 400EH	334	LD B,8
273	S4 CALL 4044H	335	D2 LD A,(HL)
274	OR A	336	OR A
275	JP NZ,400EH	337	JR Z,D7
276	CALL 400BH	338	PUSH BC
277	EI EI	339	CP 1
278	L21 JP HO	340	JR NZ,D3
279	BTA LD BC,0606H	341	LD DE,16
280	L22 LD HL,(BUF1)	342	ADD HL,DE
281	CALL 132FH	343	JR D6
282	DEC HL	344	D3 LD B,10
283	LD (HL),20H	345	EI
284	INC HL	346	D4 LD A,(HL)
285	RET	347	INC HL
286	DLY DI	348	CALL 033AH
287	CALL 4008H	349	DJNZ D4
288	LD BC,0032H	350	LD A,(7AAEH)
289	CALL 4038H	351	ADD A,10
290	RET	352	AND 20H
291	BR PUSH IY	353	JR NZ,D5A
292	POP HL	354	LD A,20H
293	DEC HL	355	CALL 033AH
294	LD (78B1H),HL	356	JR D5
295	LD BC,65485	357	D5A LD A,0DH
296	ADD HL,BC	358	CALL 033AH
297	LD (78A0H),HL	359	LD A,1BH
298	LD HL,7AE9H	360	CALL 033AH
299	LD (78A4H),HL	361	D5 LD DE,6
300	LD A,0C9H	362	ADD HL,DE
301	LD (79ACH),A	363	D6 POP BC
302	CALL 1B4AH	364	DJNZ D2
303	JP 1A19H	365	INC (IY+11H)
304	IPUT LD HL,MES3	366	LD A,(IY+11H)
305	CALL 2B75H	367	CP 0FH
306	CALL 053AH	368	JR NZ,D1
307	JR C,BR	369	D7 CALL 400BH
308	LD A,(DE)	370	EI
309	CP 20H	371	POP BC
310	JR Z,DIR	372	ERR LD BC,(ADD)


```
198 :
200 M=0:GOSUB 50:GOSUB 90:'████████████████████
202 :
204 IF R=44 THEN PRINT@243,"L" ELSE PRINT@243,"P"
206 PRINT@226,"LOTTO OR POOLS ";:INPUT Y$
208 :
210 IF Y$="L" THEN R=44:P=8:PRINT@481,"██████";:GOTO 216
212 IF Y$="P" THEN R=38:P=7:PRINT@481,"██████";:ELSE 204
214 :
216 PRINT@275,"N":PRINT@258,"PRIME #'S ONLY ";:INPUT P$
218 :
220 IF P$="Y" THEN P$="PRIME ":P=6:GOTO 230
222 IF P$="N" THEN P$="PRIME+":GOTO 230 ELSE 216
224 :
230 X=USR(31348):'CLEAR PART SCREEN
232 L=98:FOR A=1 TO P
234 :
236 IF A<7 THEN PRINT@L,"ENTER WINNING #";A;"-> ";
238 IF A=7 THEN L=322
240 IF A>6 THEN PRINT@L,"SUPPLEMENTARY NUMBER ";
242 :
244 INPUT N(A)
246 IF N(A)=0 THEN A=P:GOTO 300
248 IF A<7 THEN IF N(A)>R THEN 236
250 IF A>6 THEN IF N(A)>R THEN 240
252 T=0:IF A<>1 THEN FOR I=1 TO A-1:T=T-(N(I)=N(A)):NEXT I
254 IF (T) THEN 236
256 L=L+32:NEXT
258 :
260 PRINT@441,"Y":PRINT@418,"ARE NUMBERS CORRECT ";
262 :
264 INPUT Y$:IF Y$="Y" THEN 270
266 IF Y$="N" THEN 232 ELSE 260
268 :
270 FOR I=1 TO P:'████████████████████
272 C(N(I))=C(N(I))+1:NEXT
274 :
276 PRINT@441,"Y":PRINT@418,"ENTER MORE NUMBERS ";:INPUT Y$
278 :
280 IF Y$="Y" THEN 230
282 IF Y$="N" THEN 500 ELSE 276
298 :
300 M=0:GOSUB 50:'████████████████████
302 :
304 PRINT@073,"I) INSERT DATA"
306 PRINT@105,"E) EDIT DATA"
308 PRINT@137,"D) DISPLAY DATA"
310 :
312 PRINT@201,"P) PRINT DATA"
314 PRINT@233,"C) CLEAR DATA"
316 PRINT@265,"Y) ENTER YR/WK"
318 :
320 PRINT@329,"Q) QUIT & PARK"
324 PRINT@361,";) SUB MENU"
326 PRINT@393,":) DISK MENU "
342 :
344 GOSUB 90:SOUND 25,1
346 POKE 30777,35
348 :
350 C$=INKEY$:C$=INKEY$:IF C$="" THEN 350 ELSE X=USR(13392)
352 :
354 IF C$="I" THEN 200
```


44-17 VZ FREQUENCY CONTINUED

```

356 IF C$="E" THEN 900
358 IF C$="D" THEN 500
360 :
362 IF C$="P" THEN 550
364 IF C$="C" THEN RUN
366 IF C$="Y" THEN 150
368 :
370 IF C$="Q" THEN 680
372 IF C$=";" THEN 960
374 IF C$=":" THEN 400
378 :
396 GOTO 350
398 :
400 M=0:GOSUB 50: '████████████████████
402 :
404 PRINT@073,"L) LOAD DATA"
406 PRINT@105,"S) SAVE DATA"
408 PRINT@137,"U) UPDATE DATA"
410 :
412 PRINT@201,"E) ERASE FILE"
414 PRINT@233,"R) RENAME FILE"
416 PRINT@265,"I) INIT DISK"
418 :
420 PRINT@329,"D) DIRECTORY"
422 PRINT@361,"1) DRIVE 1/2"
424 PRINT@393,":) MAIN MENU "
428 :
430 DRIVE D:PRINT@361,USING"#";DR
442 :
444 GOSUB 90:SOUND 25,1
446 POKE 30777,35
448 :
450 D$=INKEY$:D$=INKEY$:IF D$="" THEN 450 ELSE X=USR(13392)
452 :
454 IF D$="L" THEN U=0:GOTO 650
456 IF D$="S" THEN U=1:GOTO 650
458 IF D$="U" THEN U=2:GOTO 650
459 :
460 IF D$="E" THEN 600
462 IF D$="R" THEN 620
463 :
464 IF D$="D" THEN 850
466 IF D$="I" THEN 780
470 IF D$="1" THEN D=1:DR$="█":GOTO 430
472 IF D$="2" THEN D=2:DR$="█":GOTO 430
474 :
476 IF D$=":" THEN 300
494 :
496 GOTO 450
498 :
500 GOSUB 80:IF ND=0 THEN 326: '████████████████████
502 M=0:GOSUB 50:GOSUB 90
508 :
510 E$="##":F$="#### ":PRINT@64,"";
518 :
520 IF R=38 THEN X1=10:Y1=30:ST=10
522 IF R=44 THEN X1=11:Y1=33:ST=11
524 FOR X=1 TO X1:FOR Y=0 TO Y1 STEP ST
526 IF R=38 THEN IF X+Y>38 THEN PRINT:GOTO 534
528 :
530 PRINT USING E$;X+Y;:PRINT"-";
532 PRINT USING F$;C(X+Y);

```

```

534 NEXT Y:NEXT X
536 E$="":F$=""
542 :
544 PRINT@455,M$
546 IF INKEY$="":THEN 300 ELSE 546
548 :
550 GOSUB 80:IF ND=0 THEN 326:' "████████████████████"
552 M=1:GOSUB 50:PRINT@11,"████████████████████":GOSUB 90
554 :
556 GOSUB 60:INPUT Y$
558 IF Y$="N"THEN 300
560 IF Y$="Y"THEN 564 ELSE 556
562 :
564 E$="##":F$="**## "
566 LPRINT TAB(10)"VZ ";PL$;" YR ";USING E$;Y;
568 LPRINT" WK ";USING E$;W;:LPRINT" ";USING"% %";L$;
570 LPRINT USING"% %";P$:LPRINT
572 :
574 IF R=38 THEN X1=10:Y1=30:ST=10
576 IF R=44 THEN X1=11:Y1=33:ST=11
578 FOR X=1 TO X1:FOR Y=0 TO Y1 STEP ST
580 IF R=38 THEN IF X+Y>38 THEN 590
584 :
586 LPRINTTAB(10)USING E$;X+Y;:LPRINT"-";
588 LPRINT USING F$;C(X+Y);
590 NEXT Y:LPRINT
594 NEXT X:LPRINT
596 E$="":F$="":GOTO 300
598 :
600 M=1:GOSUB 50:PRINT@10,"████████████████████";:GOSUB 68:PRINT@258,EF$;
602 :
604 SOUND 30,1:INPUT N$
606 IF N$=""THEN 400
608 IF LEN(N$)>8 THEN 600
610 AD=31483:GOSUB 40:GOSUB 12
612 GOTO 400
618 :
620 M=1:GOSUB 50:PRINT@10,"████████████████████";:GOSUB 68
622 :
624 PRINT@258,"OLD FILENAME > ";:SOUND 30,1:INPUT N$
626 IF N$=""THEN 400
628 IF LEN(N$)>8 THEN 620
630 AD=31503:GOSUB 40
632 :
634 PRINT@290,"NEW FILENAME > ";:SOUND 30,1:INPUT N$
636 IF N$=""THEN 400
638 IF LEN(N$)>8 THEN 634
640 AD=31514:GOSUB 40
642 GOSUB 14:GOTO 400
648 :
650 IF U>0 THEN GOSUB 80:IF ND=0 THEN 424:' "████████████████████"
652 M=1:GOSUB 50
654 IF U=0 THEN PRINT@11,"████";
656 IF U=1 THEN PRINT@11,"████";
658 IF U=2 THEN PRINT@10,"████████";
660 PRINT"████████":GOSUB 90:GOSUB 68
662 :
664 PRINT@275,N$:PRINT@258,EF$;
666 INPUT N$:IF N$=""THEN 400
668 IF LEN(N$)>8 THEN664

```

44-19 VZ-EPSON PRINTER PATCH V1.4

BY LARRY TAYLOR - PUBLIC DOMAIN

The VZ-EPSON PRINTER PATCH allows EPSON or EPSON compatible printers to LPRINT or LLIST all of the VZ's inverse and graphics characters.

These same characters can also be dumped to the printer from the LO-RES screen, when the COPY command is used. In MODE(1), use of the COPY command will dump the HI-RES screen to the printer. In addition, an extension of the COPY command has been provided. The new command is COPYA. If COPYA is used in MODE(0), a dump of the LO-RES screen will be made without the usual linefeeds, whilst in MODE(1), a larger than normal dump of the HI-RES screen will be printed. To cater to differences in line feeds between printers, both commands may be used in the form COPYn and COPYAn, where n is a value ranging from 4 to 8. Changing n allows selection of a line feed setting appropriate to the printer being used. Should COPY or COPYA not be followed by a line feed value, then a default setting of 6 will be used.

Three additional commands, LTAB(n), PAGE(n) and FEED(n) have also been added. The LTAB(n) command is used to set a left margin for any output to the printer, whether from an LPRINT statement, during LLISTing of a BASIC program or when doing a screen dump. The value n may be in the range 0 to 63, indicating the number of spaces in from the left that printing will occur. A printout of the disk directory at the current LTAB(n) position can be obtained by first setting the output device code to printer, followed by the DIR command. eg. POKE30876,1:DIR

PAGE(n) sets the page length and n may be in the range 0 to 127. FEED(n) sets the number of linefeeds between the end of printed text and the end of the page. It can be in the range from 0 to 127, but unless it is less than the page length, it will be ignored. Setting a valid linefeed value, causes a form feed to occur automatically. If n is set to 0 then the automatic form feed is switched off. LTAB(n), PAGE(n), FEED(n), LLIST, LPRINT and both the COPY commands may be entered either directly from the keyboard, or used from within a program, but will only function correctly whilst the PRINTER PATCH is present.

The utility locates and protects itself according to available memory, allowing BASIC programs to be loaded and worked on normally. When LLISTing a BASIC program, the routine is also able to recognize all of the hidden commands, which may have been entered using an EXTENDED BASIC. Although not dependent on it, the routine can be used with Steve Olney's EXTENDED BASIC already resident in memory and will not interfere with it in any way. To use it in this way, first load the extended BASIC and then the PRINTER PATCH. Once the READY message appears you will have access to both the EXTENDED BASIC and the improved printer commands.

DAVE MITCHELL

E & F WP PATCH 3.3
 MENU & FILE COPIER
 EXTENDED DOS V1.3
 MONITOR 6000H
 DISK FILER & CATALOGUER

E & F WP PATCH 3.4
 MENU & FILE COPIER 6000H
 EXTENDED DOS 6000H
 DISK FILE COPIER 6000H

MARK HARWOOD

MARK 32 DATABASE
 DISK EDITOR ASSEMBLER

MARK 64 DATABASE
 VZ USER NEWSLETTERS - 22 ISSUES

LARRY TAYLOR

VZ EPSON PRINTER PATCH 1.4
 COPYPRO 4: FILE COPIER/PROTECTOR
 COPYPRO 5: TWO DRIVE DISK ONLY
 DISK COPY 2: SINGLE DRIVE COPIER
 FILE SEARCH 2 (DISK/TAPE CONTENTS)
 DISK MENU (MEMORY RESIDENT)

ESCAPE RIVER (LO/HI-RES ADVENTURE)
 FACTORY (EDUCATIONAL GAME)
 TOWER OF HANOI (EDUCATIONAL GAME)
 NAME THE TOWNS (EDUCATIONAL)
 MICROSCOPE (EDUCATIONAL)
 SNERTLE (EDUCATIONAL MATHS)

BRIAN GREEVE : MACHINE CODE DATA 2

H.V. VZ U. G. : HUNTER VALLEY VZ JOURNAL

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